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EXAMINER

TECKLU, ISAAC TUKU

ART UNIT

PAPER NUMBER

2192

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/748,169

Applicant(s)

PARK ET AL.

Examiner

Isaac T. Tecklu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. This action is responsive to the amendment filed on 09/19/2007.
2. Claim 19 has been amended and the rejection under 35 U.S.C. 101 has been withdrawn.
3. Claims 1-19 have been reexamined.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-2, 5-6, 8-15 and 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Kitamura (Domain Name Auto-Registration for Plugged-in Ipv6 Nodes, <http://tools.ietf.org/html/draft-ietf-dnsext-ipv6-name-auto-reg-00.txt>, dated 12/02/2002).

As per claim 1, Kitamura discloses a method of automatically registering a domain name in a network to which a host belongs, the method comprising: (section 1 “Domain Name Auto-Registration”)

(a) creating a link local address of the host and extracting from the link local address an interface ID that is used to identify the host from other hosts if the created link local address is not in use; and (section 4, page 15 “link-local address” and “DAD” procedure and e.g. Figure. 3 on page 14, steps a-g and Section 5 “Temporary address” and related text)

(b) creating a domain name using the interface ID and name information of the network to which the host belongs and registering the domain name in a domain name server (Section 1, page 2 IP address information that should be registered to the DNS and section 5, page 16)

As per claim 2, Kitamura discloses the method of claim 1, wherein the creating the domain name comprises; transmitting to the domain name server the created domain name with a predetermined first message (Section 2, page 4 “DNS server receives dynamic updates messages ...” and Fig. 3 on page 14 steps o-r and related text); and

generating a new domain name if the domain name has already been in the domain name server and a predetermined second message indicating the presence of the domain name in the domain name server is received (See Section 3.2-3.3, Section 4, page 14- 15 "... if the existence is not verified ..." and "... starts preparing "domain name"...").

As per claim 5, Kitamura discloses the method of claim 1, wherein the name information of the network corresponds to a suffix of the domain name of the network to which the host belongs (Section 3.2 "location of DNS server" and Section 3.6, page 11).

As per claim 6, Kitamura discloses the method of claim 5, wherein in step, "interface ID.suffix" is created as the domain name, wherein "interface ID" corresponds to the extracted interface ID (Section 3.2 "ID information").

As per claim 8, Kitamura discloses the method of claim 1, wherein in , in the creating of the link local address of the host and extracting the interface ID, it is determined whether the created link local address has already been used using duplicate address detection (DAD) (Section 5, "DAD packets" and e.g. Fig. 3 on page 14 plugged-in Ipv6 node steps a, b, f and g for DAD messages and related text).

As per claim 9, Kitamura discloses the method of claim 1, wherein in,

in the creating of the link local address of the host and extracting the interface ID, a lower 64 bits of the created link local address, except for its prefix, is extracted as the interface ID (Section 3.2 “ID information”).

As per claim 10 (original), Kitamura discloses the method of claim 1, wherein the host is an IPv6 host (e.g. Fig. 2, Ipv6 and related text).

As per claim 11, Kitamura discloses a system of automatically registering a domain name, the system comprising:

a host, which receives name information of a network to which the host belongs, creates a domain name using an interface ID that is used to identify the host from other hosts and the name information of the network, and outputs the created domain name (Section 4, page 15 “link-local address” and “DAD” procedure and e.g. Fig. 3 and related text); and

an auto-registration server, which transmits the name information of the network to the host, receives the created domain name, and registers the created domain name in a domain name server (Section 1, page 2 IP address information that should be registered to the DNS and Section 5, page 16).

As per claim 12, Kitamura discloses the system of claim 11, wherein the host comprises: a link local address creating unit, which creates a link local address of the host (Section 1, page 2 IP address information that should be registered to the DNS and section 5, page 16)

an interface ID extracting unit, which receives the created link local address and extracts

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an interface ID from the received link local address (Section 4, page 15 “link-local address” and “DAD” procedure and e.g. Fig. 3 and related text); and

a domain name creating unit, which creates a domain name using the extracted interface ID (Section 4, page 15 starts preparing “domain name”).

As per claim 13, Kitamura discloses the system of claim 12, wherein the link local address creating unit creates the link local address of the host, determines whether the created link local address is in use using duplicate address detection (DAD), and creates a new link local address if the created link local address is in use (Section 4, page 15 “link-local address” and “DAD” procedure and e.g. Fig. 3 and related text)

As per claim 14 (original), Kitamura discloses the system of claim 12, wherein the interface ID extracting unit extracts the lower 64 bits of the created link local address, except for a prefix, as the interface ID (Section 3.2 “ID information”).

As per claim 15, Kitamura discloses the system of claim 11, wherein the auto-registration server comprises:

a network name information transmitting unit, which transmits the name information of the network to the host (Section 3.2 “ID information”);

a domain name managing unit, which receives the domain name, registers the received domain name in a domain name server, and if the received domain name is already present in the domain name server, notifies the host that the received domain name is already present in the

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domain name server (Section 1, page 2 IP address information that should be registered to the DNS and section 5, page 16); and

a domain name information storing unit, which stores the registered domain name information for .a predetermined amount of time (e.g. Fig. 3 and related text).

As per claim 18 (original), Kitamura discloses the system of claim 11, wherein the host is an IPv6 host (e.g. Fig. 2, Ipv6 and related text).

As per claim 19, this is the computer readable recording medium version of the claimed method discussed above (Claim 1), wherein all claim limitations have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Kitamura.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3-4, 7 and 16-17 rejected under 35 U.S.C. 103(a) as being unpatentable over Kitamura (Domain Name Auto-Registration for Plugged-in Ipv6 Nodes, <http://tools.ietf.org/html/draft-ietf-dnsext-ipv6-name-auto-reg-00.txt>, dated 12/02/2002) in view of Borella (US 2003/0029697).

As per claims 3 and 17 (amended), Kitamura does not explicitly disclose wherein the created domain name is transmitted to the domain name server with a neighbor solicitation (NS) message. However Borella teaches solicitation message onto the LAN 150 that will be received by the foreign agent 140, which is gateway router (paragraph [0030]). Therefore it would have been obvious to one skilled in the art to combine Kitamura and Borella to indicate that the subnet is on a foreign subnet and to dynamically change its network connectivity in manner that is transparent to layers above IP and the user as once suggested by Borella (paragraph [0027] and [0030]).

As per claims 4, 7 and 16 (amended), Kitamura does not explicitly disclose wherein the predetermined second message indicating the presence of the domain name is received from the domain name server with a neighbor advertisement (NA) message. However, Borella teaches periodically transmitting agent solicitation message on the subnet to which it is coupled and listens for an agent "advertisement message" from gateway routers. Therefore it would have been obvious to one skilled in the art to combine Kitamura and Borella to indicate that the subnet is on a foreign subnet and to dynamically change its network connectivity in manner that is

transparent to layers above IP and the user as once suggested by Borella (paragraph [0027] and [0030]).

Response to Arguments

8. Applicant's arguments filed 09/19/2007 have been fully considered but they are not persuasive.

In the remark, the Applicants argue:

There is no teaching that a link local address of a host is created (page 7).

The examiner respectfully traverses that link local address of the host is issued or defined (Section 5 and Figure 3). "Temporary address" is defined (Section 5, page 15). Temporary addresses are detected in this mechanism, because DAD packets are issued when temporary address are generated (Section 5, page 15). In addition Section 4 describes procedures of the Domain Name Auto-Registration. Figure 3 shows an example of typical Domain Name Auto-Registration procedures at Ipv6 where DAD packets are issued. Figure 3 (a) shows link local address being issued using DAD packets.

In the remark, the Applicants argue:

Kitamura does not disclose or suggest creating a domain name using the extracted interface ID and name information of the network to which the host belongs (page 7).

The examiner respectfully traverses. Kitamura teaches The role of a "Registrar" is to prepare appropriate domain name information for registration and to register it by sending Dynamic Update messages to the corresponding "DNS servers". Appropriate domain name information for registration is created from detected information that is sent from the Detector. Some sort of intelligent algorithm is necessary in such procedures. One of the roles of the algorithm is to minimize the effects of malicious or misconfigured registration requests (Section 3.3, page 8 - emphasis added -). Therefore Kitamura teaches creating domain name using extracted interface ID (from information detected/extracted that is sent from the detector).

In the remark, the Applicants argue:

Even if, *arguendo*, the cited portion of Kitamura discloses the preparation of a "domain name," nowhere does Kitamura disclose generating a new domain name if the domain name has already been in the domain name server (page 8).

The examiner respectfully traverses that appropriate domain name information for registration is created from detected information that is sent from the Detector. Some sort of intelligent algorithm is necessary in such procedures. One of the roles of the algorithm is to minimize the effects of malicious or misconfigured registration requests (Section 3.3, page 8). In order to meet "temporary address" issues (Section 5, page 15), a link-layer address of a detected IP address is also attached to detected information. Some simple protocol is necessary to send detected information from the Detector to the Registrar (Section 3.2, page 7). If the existence is

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not verified, the Registrar starts preparing "default domain name" information for the candidate IPv6 address (Section 4, page 14 - emphasis added -). Therefore Kitamura teaches generating a new domain name if the domain name has already been in the domain name server.

In the remark, the Applicants argue:

Kitamura does not disclose or suggest that the name information of the network corresponds to a suffix of the domain name of the network to which the host belongs (page 8).

It is respectfully traversed that Registrar has a database table to manage such knowledge. The following elements are managed in the database table: Detector IDs, DNS zone suffixes, locations of DNS servers, applied algorithms (naming rules, how to deal with link-local or site-local scope addresses, etc.) and keys for secure communications. A Registrar can be placed anywhere in the IPv6 network, because the Registrar communicates only with Detectors and DNS servers, all communications are unicast (Section 3.3, page 8). A fully qualified "default domain name" is composed of a node's original prefix part and a DNS zone suffix part that is the same for each site or link. Since a DNS zone suffix is given to the Registrar manually, only the naming rules for a node's original prefix are discussed here (- emphasis added -). A naming rule algorithm for a node's prefix is given to the Registrar manually. It is not necessary to define naming rules for a node's prefix explicitly in this document. Each site can define its own naming rules (algorithms) per link according to site policy (Section 3.6, page 11).

In the Remark the Applicants argue:

No where does the cited portions of Kitamura disclose or suggest that an auto registration server transmits the name information of the network to the host (page 9).

It is respectfully submitted that , the items that are described in the Security Considerations section of the Address Autoconfiguration are also applicable to this document. In addition, the following security issues are considered. Since the Detector must send detected information to the Registrar securely, some sort of secure communication method must be used (Section 6, page 16). In addition, Appendix A shows how host name is transmitted as host.example.com.

In the Remark the Applicants argue:

There is no teaching or suggestion in either of the applied references of the claimed contents of the neighbor advertisement messages as recited in claims 4, 7 and 16 (page 10).

Examiner has indicated that Kitamura does not explicitly disclose wherein the predetermined second message indicating the presence of the domain name is received from the domain name server with a neighbor advertisement (NA) message. However, Borrelia teaches periodically transmitting agent solicitation message on the subnet to which it is coupled and listens for an agent "advertisement message" from gateway routers (paragraph [0027] and [0030]) (emphasis added).

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isaac T. Tecklu whose telephone number is (571) 272-7957. The examiner can normally be reached on M-TH 9:300A - 8:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



TUAN DAM
SUPERVISORY PATENT EXAMINER

Isaac Tecklu

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